

80' DATE

SUBJECT Reaction, JB73

Osaka 17284-37-1

PROJECT NO.

Project No. _____

Start collection: 7:41 AM
end : 9:13 AM
Time = 92 min.

Offgas + 680 ppm F₂

66.45 L start
81.02 L end
Time = 1 hour 30 min 90 sec
90.67 min

Temperature

	A	B
Sat	—	—
Tair	79.4	165
	106.5	106
	124.1	106
	135	175

Analysis

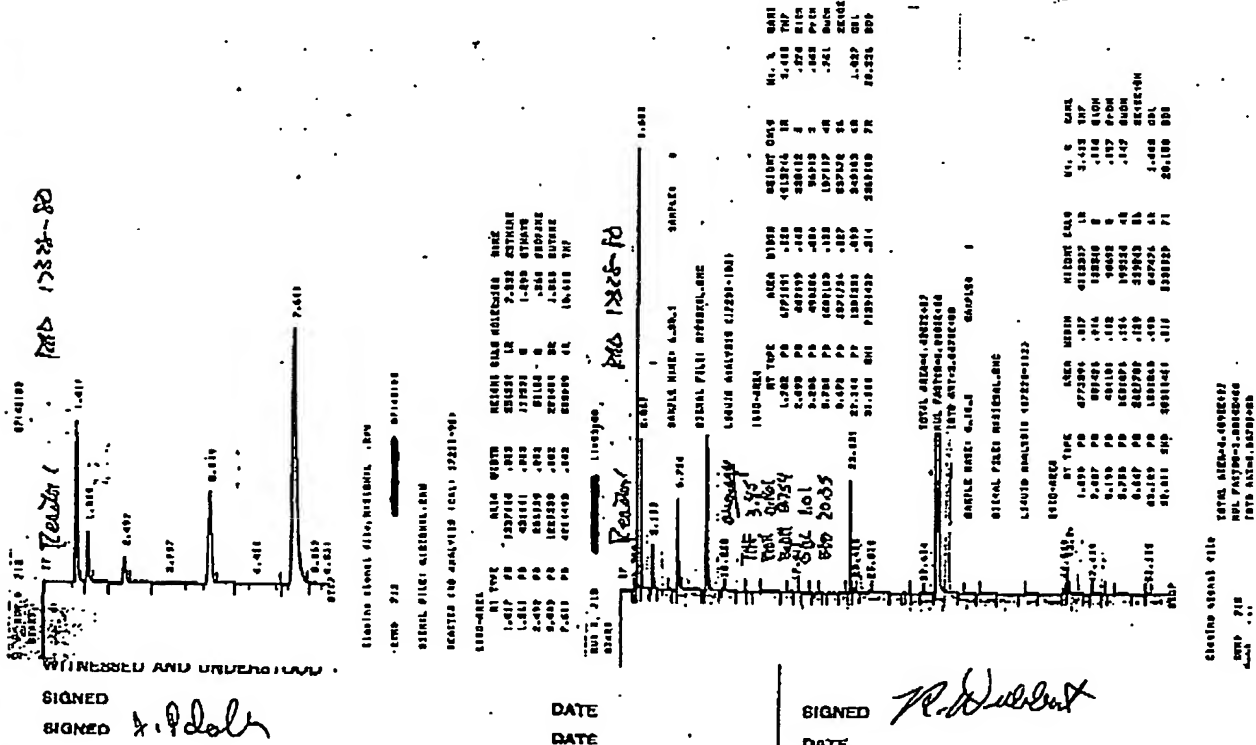
	1A	1B
Total	157.7	172.7
28% Starch	44.269 g	
+ 20% Lysine	31.312 g	
= 28% Starch	2.067 g	

Product wt: 57.19 g / 24.46 g (total)

Gase 14.57 L / 90.67 min = 0.161 L/min

Titration 2cc aliquot
Standard solution endpoint
0.199 / 14.04
0.826 ml titrant used
 $\frac{1}{2} \text{ SAC} = 0.826 \times 0.199 \times 5.2 = 0.485 \text{ g}$

Feed changed to OSAK 17254-32-2 + 100 ppm F₂ at 8:00 PM



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EXHIBIT 1

DATE

SUBJECT

PROJECT NO

RT

BDO RUN SHEET

Run Date:	Catalyst: JB73
Run Reference: 17328-80	Cat. Reference: 17232-2
Data Table: BDOOT_7.XLS	Study No.: 1

Process Conditions

Pressure psig: 4000	Temperatures	Set T (C)	Bed T (C)
[MAC] wt/v%: 40	Zone 1:	165	157.7
LHSV /h: 0.8	Zone 2:	166	171.0
Prod. g/kg/h: 527	Zone 3:	166	172.9
MACIn mole/h: 0.110345	Zone 4:	175	177.7
GHSV /h: 5437.5	Average:	167.8	171.2
H2/MAC: 88			
H2 Rec/Mup: 12.08	TOS h:	5518.82	AcH In, mole/h
[Ach] wt/v%:	Weight Cat. g:	24.3	
[AcH] wt/v%:	Volume Cat. cc:	40	AcH In, mole/h

Product Selectivities

BDO:	74.48	CH4:	0.06
THF:	16.14	C3H8:	0.01
GBL:	3.87	C4H10:	0.06
	94.49		0.14
PrOH:	0.66		
BuOH:	3.36	COx:	0.00
	4.02		
PrAc:	0.00	Mass Balance:	1.02
BuAc:	0.00		
SAC:	1.38		
	1.38		
			EtOH out, mole/h

Witnessed

Signed

Date

Date